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09/652,862	08/31/2000	Donald C. D. Chang	PD-200084	3780

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EXAMINER

EWART, JAMES D

ART UNIT	PAPER NUMBER
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2683

9

DATE MAILED: 05/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/652,862

Applicant(s)

CHANG ET AL.

Examiner

James D Ewart

Art Unit

2683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 23 is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

***Response to Arguments***

1. Arguments of applicant have been considered and examiner agrees that Chang et al doesn't specifically state forming cell clusters and scanning, but it's logical that in the process of going from a large beam to a smaller beam eventually the subscriber will be outside the radius of the beam, unless the subscriber is in the very center of the beam, and the subscriber location will not be known. Then a beam must go around the perimeter of the beam in which the subscriber was lost to get a more precise location of the subscriber. This beam may form a cluster of cells. In any event, examiner agrees that the reference is lacking this limitation and will provide another reference that teaches these limitations.

***Claim Objections***

2. Claim 15 is objected to because of the following informalities: the last part of the claim reads "and; partitioning and zooming" it should be "and partitioning and zooming". Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3 - 8, 10, 11, 12, and 14 - 19 are rejected under 35 USC 103(a) as being unpatentable over Chang et al. and further in view of Wissinger (U.S. Patent No. 5,475,520).

Referring to claim 1, Chang et al teaches a method for rapid acquisition of a specific subscriber comprising: (a) defining a coverage area as an arrangement of a plurality of cells wherein one of the plurality of cells includes a specific subscriber and (d) scanning the beam to the one of the cells that includes the specific subscriber (Column 1, Lines 62-67), but does not teach (b) defining a partition of cell clusters wherein one of the cell clusters includes the one of the plurality of cells that includes the specific subscriber; (c) forming a beam that corresponds to an area of one of the cell clusters. Wissinger teaches (b) defining a partition of cell clusters wherein one of the cell clusters includes the one of the plurality of cells that includes the specific subscriber (Figure 8(A)) and (c) forming a beam that corresponds to an area of one of the cell clusters (Figure 8(A)). Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Chang et al. with the art of Wissinger of (b) defining a partition of cell clusters wherein one of the cell clusters includes the one of the plurality of cells that includes the specific subscriber and (c) forming a beam that corresponds to an area of one of the cell clusters to decrease the acquisition time (Column 2, Lines 22 - 23). The teachings of Wissinger of using 4 beams simultaneously and determining which beam the subscriber is located in could just as well be achieved by scanning, which is what Chang et al and prior art of applicant teach.

Referring to claim 12, Chang et al teaches a method for rapid acquisition of a specific subscriber comprising: (a) defining a coverage area as an arrangement of a plurality of cells wherein one of the plurality of cells includes a specific subscriber (Column 1, Lines 62-67) and (d) scanning the beam to the one of the cells that includes the specific subscriber (Column 1, Lines 62-67), but does not teach (b) defining a partition of cell clusters wherein one of the cell clusters includes the one of the plurality of cells that includes the specific subscriber; (c) forming a beam that corresponds to an area of one of the cell clusters; (e) partitioning the one of the cell clusters that includes the specific subscriber into a second plurality of cell clusters; (f) zooming the beam to form a beam that corresponds to an area of one of the second plurality of cell clusters; and (g and h) determining which of the plurality of beams is the location of the specific subscriber. Wissinger teaches (b) defining a partition of cell clusters wherein one of the cell clusters includes the one of the plurality of cells that includes the specific subscriber (Figure 8(A)) and (c) forming a beam that corresponds to an area of one of the cell clusters (Figure 8(A)); (e) partitioning the one of the cell clusters that includes the specific subscriber into a second plurality of cell clusters clusters (Figure 8(B)); (f) zooming the beam to form a beam that corresponds to an area of one of the second plurality of cell clusters (Figure 8(B)); and (g and h) determining which of the plurality of beams is the location of the specific subscriber (Column 5, Lines 16-40). Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Chang et al. with the art of Wissinger of (b) defining a partition of cell clusters wherein one of the cell clusters includes the one of the plurality of cells that includes the specific subscriber and (c) forming a beam that corresponds to an area of one of the cell clusters (e) partitioning the one of the cell clusters that includes the

specific subscriber into a second plurality of cell clusters; (f) zooming the beam to form a beam that corresponds to an area of one of the second plurality of cell clusters; and (g and h) determining which of the plurality of beams is the location of the specific subscriber to decrease the acquisition time (Column 2, Lines 22 – 23). The teachings of Wissinger of using 4 beams simultaneously and determining which beam the subscriber is located in could just as well be achieved by scanning, which is what Chang et al and prior art of applicant teach.

Referring to claim 15, Chang et al teaches a method for rapid acquisition of a specific subscriber comprising: defining a coverage area having a plurality of cells wherein one of the plurality of cells includes the specific subscriber generating a locating signal (Column 1, Lines 62-67), but does not teach defining at least a first cell cluster and second cell cluster within the plurality of cells; zooming a beam to a first size; identifying the first cell cluster when the locating signal is received therefrom; partitioning the first cell cluster into a third cell cluster and a fourth cell cluster; zooming the beam to a second size; thereafter, confirming the specific subscriber is within the third cell cluster in response to the locating signal; and partitioning and zooming until a location of the specific subscriber is determined. Wissinger teaches defining at least a first cell cluster and second cell cluster within the plurality of cells; zooming a beam to a first size; identifying the first cell cluster when the locating signal is received therefrom (Figure 8(A)); partitioning the first cell cluster into a third cell cluster and a fourth cell cluster; zooming the beam to a second size; thereafter, confirming the specific subscriber is within the third cell cluster in response to the locating signal (Figure 8(A)); and partitioning and zooming until a location of the specific subscriber is determined (Column 5, Lines 16-40). Therefore, at the time

the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Chang et al with the art of Wissinger of defining at least a first cell cluster and second cell cluster within the plurality of cells; zooming a beam to a first size; identifying the first cell cluster when the locating signal is received therefrom; partitioning the first cell cluster into a third cell cluster and a fourth cell cluster; zooming the beam to a second size; thereafter, confirming the specific subscriber is within the third cell cluster in response to the locating signal; and partitioning and zooming until a location of the specific subscriber is determined to decrease the acquisition time (Column 2, Lines 22 – 23). The teachings of Wissinger of using 4 beams simultaneously and determining which beam the subscriber is located in could just as well be achieved by scanning, which is what Chang et al and prior art of applicant teach.

Referring to claim 19, Chang et al teaches a method for rapid acquisition of a specific subscriber comprising: defining a coverage area having a plurality of cells wherein one of the plurality of cells includes a specific subscriber cell having a specific subscriber therein (Column 1, Lines 62-67), but does not teach partitioning the cells into progressively smaller clusters; and zooming and scanning a beam to the progressively smaller clusters until a location of said specific subscriber cell is determined. Wissinger teaches partitioning the cells into progressively smaller clusters; and zooming and scanning a beam to the progressively smaller clusters until a location of said specific subscriber cell is determined (Figure 8 (A-D) and Column 5, Lines 16-40). Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Chang et al with the art of Wissinger of partitioning the cells into progressively smaller clusters; and zooming and scanning a beam to the

progressively smaller clusters until a location of said specific subscriber cell is determined to decrease the acquisition time (Column 2, Lines 22 – 23). The teachings of Wissinger of using 4 beams simultaneously and determining which beam the subscriber is located in could just as well be achieved by scanning, which is what Chang et al and prior art of applicant teach.

Referring to claims 3, Wissinger further teaches after step (d) the step of (e) partitioning the cell cluster that includes the specific subscriber into a plurality of cell clusters (Figure 8(B) and Column 5, Lines 16-40).

Referring to claim 4 and 14, Wissinger further teaches further teaches wherein each of the plurality of cell clusters has an equal number of cells (Figure 8(B) and Column 5, Lines 16-40).

Referring to claim 5, Wissinger further teaches after step (e) the step of (f) zooming the beam to form a beam that corresponds to an area of one of the plurality of cell clusters (Figure 8(B) and Column 5, Lines 16-40).

Referring to claim 6, Chang et al. further teaches combining beams corresponding to an area of at least one of the plurality of cells to form the beam (Column 7, Lines 19-32).

Referring to claim 7, Wissinger further teaches and the step of repeating steps (d), (e), and (f) (Figure 8(A-D) and Column 5, Lines 16-40).



Referring to claim 16, Wissinger further teaches wherein zooming a beam to a first size comprises zooming a beam to a first size corresponding to an area of the first cell cluster or the second cell cluster (Figure 8(B) and Column 5, Lines 16-40).

Referring to claim 17, Wissinger further teaches wherein zooming the beam to a second size comprises zooming a beam to a second size corresponding to an area of the third cell cluster or the fourth cell cluster (Figure 8(B) and Column 5, Lines 16-40).

Referring to claim 18, Wissinger further teaches wherein partitioning the plurality of cells comprises partitioning the plurality of cells into an equal number (Figure 8(B) and Column 5, Line 16-40).

4. Claims 2 and 13 are rejected under 35 USC 103(a) as being unpatentable over Chang et al. and Wissinger and further in view of Diekelman et al. (U.S. Patent No. 5,555,444).

Referring to claims 2 and 13, Chang et al. and Wissinger teach the limitations of claims 2 and 13 and teach partitioning, but do not teach using a traffic model. Diekelman et al. teaches using a traffic model (Column 18, Lines 15-26). Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Chang et al. and Wissinger with the art of Diekelman et al. for predicting traffic and handling different traffic prediction requests (Column 19, Lines 32-38).

5. Claims 8, 10, and 11 are rejected under 35 USC 103(a) as being unpatentable over Chang et al. in view of Wissinger and further in view of Lo et al. (U.S. Patent No. 6,240,072).

Referring to claim 8, Chang et al teaches an apparatus for rapid acquisition of a specific subscriber comprising: a stratospheric transponder platform having an antenna for one of transmitting a beam corresponding to an area of a cell cluster and scanning the beam to the one of the cells that includes the specific subscriber (Column 1, Lines 62-67), but does not teach a partitioning containing a plurality of cell clusters and scanning the beam to form a beam aimed at one of the plurality of cell clusters that includes a specific subscriber wherein each of the plurality of cell clusters includes at least one of a plurality of cells. Wissinger teaches a partitioning containing a plurality of cell clusters (Figure 8(A)) and scanning the beam to form a beam aimed at one of the plurality of cell clusters that includes a specific subscriber wherein each of the plurality of cell clusters includes at least one of a plurality of cells (Figure 8(B)). Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Chang et al. with the teachings of Wissinger of partitioning containing a plurality of cell clusters and scanning the beam to form a beam aimed at one of the plurality of cell clusters that includes a specific subscriber wherein each of the plurality of cell clusters includes at least one of a plurality of cells to decrease the acquisition time (Column 2, Lines 22 – 23). Chang et al. and Wissinger teach the limitations of claim 8, but do not teach using a ground station coupled to the stratospheric transponder platform wherein the ground station comprises a beamformer to form a beam. Lo et al teaches using a ground station coupled to the stratospheric transponder platform wherein the ground station comprises a

beamformer to form a beam (Column 3, Lines 19-29). Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Chang et al. and Wissinger with the art of Lo et al of using a ground station coupled to the stratospheric transponder platform wherein the ground station comprises a beamformer to form a beam to reduce satellite load and to provide more flexibility (Column 3, Lines 23 –26). The teachings of Wissinger of using 4 beams simultaneously and determining which beam the subscriber is located in could just as well be achieved by scanning, which is what Chang et al and prior art of applicant teach.

Referring to claim 10, Wissinger further teaches wherein each of the plurality of cell clusters has an equal number of cells ((Figure 8 (A-D) and Column 5, Lines 16-40).

Referring to claim 11, Chang et al further teaches wherein the beamformer zooms the beam by combining beams corresponding to an area of at least one of the plurality of cells (Column 7, Lines 19-32).

6. Claim 9 is rejected under 35 USC 103(a) as being unpatentable over Chang et al., Wissinger and Lo et al. and further in view of Diekelman et al.

Referring to claim 9, the Chang et al., Wissinger and Lo et al combination teach the limitations of claim 9 and teach partitioning, but do not teach using a traffic model. Diekelman et al. teaches using a traffic model (Column 18, Lines 15-26). Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to

combine the combined art of Chang et al., Wissinger and Lo et al with the art of Diekelman et al. for predicting traffic and handling different traffic prediction requests (Column 19, Lines 32-38).

7. Claims 20 – 22 are rejected under 35 USC 103(a) as being unpatentable over Chang et al., and Wissinger and further in view of Diekelman et al.

Referring to claim 20, Chang et al. teaches a method for rapid acquisition of a specific subscriber comprising: defining a coverage area having a plurality of cells wherein one of the plurality of cells includes a specific subscriber generating a locating signal, but does not teach defining a first cell cluster from the plurality of cells; zooming a beam to a first size corresponding to the first cell cluster; confirming that the specific subscriber is within the first cell cluster; partitioning the first cell cluster into a second cell cluster and a third cell cluster; zooming the beam to a second size; thereafter, confirming that the specific subscriber is within the third cell cluster; and partitioning and zooming until a location of the specific subscriber cell is determined. Wissinger teaches defining a first cell cluster from the plurality of cells (Figure 8 (A)); zooming a beam to a first size corresponding to the first cell cluster (Figure 8 (A)); confirming that the specific subscriber is within the first cell cluster (Figure 8 (A)); partitioning the first cell cluster into a second cell cluster and a third cell cluster (Figure 8 (B)); zooming the beam to a second size (Figure 8 (B)); thereafter, confirming that the specific subscriber is within the third cell cluster; and partitioning and zooming until a location of the specific subscriber cell is determined (Figure 8 (A-D) and Column 5, Lines 16-40). Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art

of Chang et al with the art of Wissinger teaches defining a first cell cluster from the plurality of cells; zooming a beam to a first size corresponding to the first cell cluster; confirming that the specific subscriber is within the first cell cluster; partitioning the first cell cluster into a second cell cluster and a third cell cluster; zooming the beam to a second size; thereafter, confirming that the specific subscriber is within the third cell cluster; and partitioning and zooming until a location of the specific subscriber cell is determined to decrease the acquisition time (Column 2, Lines 22 – 23). The Chang et al. and Wissinger combination teach the limitations of claim 20, but do not teach using a traffic model. Diekelman et al. teaches using a traffic model (Column 18, Lines 15-26). Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the combined art of Chang et al., Wissinger and Lo et al with the art of Diekelman et al. for predicting traffic and handling different traffic prediction requests (Column 19, Lines 32-38). The teachings of Wissinger of using 4 beams simultaneously and determining which beam the subscriber is located in could just as well be achieved by scanning, which is what Chang et al and prior art of applicant teach.

Referring to claim 21, Wissinger further teaches wherein confirming that the specific subscriber is within the first cell cluster comprises receiving the locating signal from the user (Column 5, Lines 25-35).

Referring to claim 22, Wissinger further teaches wherein zooming the beam to a second size comprises zooming the beam to a second size corresponding to the third cell cluster (Figure 8 (A-D) and Column 5, Lines 16-40).

*Allowable Subject Matter*

8. Claim 23 is allowed. The following is a statement of reasons for the indication of allowable subject matter.

Referring to claim 23, the references cited do not teach a method for rapid acquisition of a specific subscriber comprising: defining a coverage area having a plurality of cells wherein one of the plurality of cells includes a specific subscriber having a first acquisition code address and a second acquisition code address associated therewith; performing a first acquisition method and a second acquisition method in parallel until a location of a specific subscriber cell is determined, wherein performing a first acquisition method comprises using a first acquisition code address, partitioning the cells into first progressively smaller clusters; and zooming and scanning a first beam to the first progressively smaller clusters; and performing a second acquisition method comprises using a second acquisition code address, partitioning the cells into second progressively smaller clusters according to a traffic model; and zooming and scanning a second beam to the second progressively smaller clusters.

*Conclusion*

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James D Ewart whose telephone number is (703) 305-4826. The examiner can normally be reached on M-F 7am - 4pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on (703)308-5318. The fax phone numbers for the organization where this application or

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proceeding is assigned are (703)305-9508 for regular communications and (703)305-9508 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.



Ewart  
May 5, 2003



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